## Module 5:

# Create Sites Users Can Navigate


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# Module 5: Create Sites Users Can Navigate

Site design must be aimed at simplicity above all else…few distractions, clear information, and [understandable] navigation.

**Jakob Nielsen, *Designing Web Usability*, 2000**

## Objectives:


**See inherent relationships in information**


**Define navigation**


**Explore why navigation matters**


**Apply four strategies for crafting navigation that works**

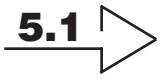

**Identify types of navigational elements**

## Introduction

**As Web developers, we must think critically about how we structure our navigation.**

Information is not an end to itself. We don't look at a page of words and images and say, "Here it is, we've located information." We use the information to answer questions and enable us to get our jobs done. We build our own decision-plans for moving through information to reach our chosen destination. We constantly assess where we are, where we've been, and where we are going.

As Web developers, we must think critically about how we structure our navigation. To help people, we can apply four Rs—building navigation that is recognizable, responsive rhetorical, and routed. Based on these guidelines, we can ensure our sites achieve the simplicity users demand.




# See inherent relationships in information

**If the structure is a mess, then no navigation design can rescue it.**

**Jakob Nielsen, *Designing Web Usability*, 2000**

## Information is not an end to itself

- People develop a plan of action to reach a destination
- People transfer plans into behavior throughout the route
- People perceive and think to mentally represent a destination/build cognitive maps

Decisions are not isolated events…they're linked together… and it is those linkages that give them their full meaning in problem-solving.

- We build "decision plans" (blueprints) for combined solutions (of many little decisions)
- These can be seen as subtasks
- Each subtask (each decision) requires information


Question

**How does the way we process information affect the way we see relationships?**

### Help people see connections by remembering inherent structures

As human beings we are always classifying information into groupings and categories.

- We base our understanding on structures we already know
- Structures are often "inherent"
- Structures can be internally or externally created


Question

**How does LATCH relate to navigation?**

5.2

# Define Navigation

**Bad web navigation is like a roach motel...users go in, but they can't get out.**

**Doren Berge, Lycos**

## What is navigation?

- Navigation is a representation of the hierarchy of your site
- Navigation is purposeful action

  Navigation is about purposeful action, about moving toward a final destination or goal. It's a means to an end, not an end in itself.

  **Jennifer Fleming, *Web Navigation*, 1998**

- Navigation is "wayfinding"
  - When we design information for "wayfinding," we do what we can to help people move efficiently through information to reach their chosen destinations.

## Define navigation in the context of your work

Question

**What is the relationship between navigation and information architecture?**

**What navigation questions do you hear?**

**Whose responsibility is navigation in your organization?**

**Why does it matter to the success of your site?**

## Wayfinding

Some scholars and practitioners refer to human navigation as wayfinding. Wayfinding refers to the overall theory behind navigation systems—the cognitive and behavioral abilities associated with purposefully reaching a desired destination.

According to Dr. Romedi Passini, a professor of architecture at the University of Montreal, wayfinding differs from other types of problem solving in that the human being is operating in an architectural or geographic space.

### Wayfinding as process

We explain wayfinding as a three-phase (but practically instant) process.

**People:**

1. Develop plans of action to help them reach a destination
2. Transfer plans into behavior at points throughout the route
3. Process the information so they can reach a decision

Wayfinding differs for experienced *vs.* novice users. On familiar routes, people know what to do to get to their destination. They have a record of the required decisions they need to make—so they only have to execute these decisions. On unfamiliar routes, people tend to need support to go from one access point to a destination and back, go from one destination zone to another, circulate within the destination zone.

### Real-life wayfinding

It's easy to think of wayfinding when we think about real-life situations. Think about how you rely on road signs to help you develop a plan of action, behave accordingly, and process information. Unfortunately road signs don't always support us. Thom explains his experience driving on the beltway surrounding Nashville:

> I was driving from the airport, trying to get downtown for a meeting. I could see ahead of me the interstate highway divide. Two lanes veered left, with a sign reading "Memphis." Two lanes veered right, with a sign reading "Knoxville." Neither sign said "Downtown." Faced with the option of guessing, I headed left, watched the skyline fade away, and cursed the "disease of familiarity"—the suspicion that Nashville road designers didn't put themselves in users' heads as they selected navigational aids.

### Incorporating wayfinding principles in navigation

A good navigation structure supports wayfinding by:

- Being easily learned
- Remaining consistent
- Providing feedback
- Appearing in context
- Offering alternatives
- Providing clear visual messages
- Requiring an economy of action and time

# 5.3 Explore why navigation matters

## Navigation provides context

- Without context we struggle to find our current position using all means available to us
- Context enables us to sort through information

**No matter what navigation design you pick for your site, there is one common theme to all navigation: All it does is visualize the user's current location and alternative movements relative to the structure of the underlying information space.**

**Jakob Nielsen, *Designing Web Usability*, 2000**

### Guide users through navigation

Once on the Web, users are faced with hundreds of millions of pages. Navigation is difficult in such a vast space and it is necessary to provide users with navigational support beyond the simple "go-to" hyperlinks. Navigation interfaces need to help users answer the three fundamental questions of navigation:

- Where am I?
- Where have I been?
- Where can I go?

**Where am I?** The most important question for any user landing on a Web page is, "Where am I?" You must allow the user to locate his or her current position relative to two different levels—on the Web as a whole and on the site's structure. Without understanding where you are, you cannot interpret the meaning of the link you just followed. You need to identify your site on all your pages because they form a subset of the Web as a whole. Most users tend to view only a few pages from any individual site. The potential downside is that users won't know they are on your site unless you tell them. Thus, navigation rule number one is to include your logo (or other identifier) on every page. Location relative to the site's structure is usually given by showing parts of the site structure and highlighting the area where the current page is located.

**Where have I been?** To know where the user has been, current browsers provide assistance with the back button, its adjoining history list that includes a list of recently-visited pages, and hypertext links shown in a different color to indicate a previously-visited page. Knowing which links lead to previously visited pages is useful for two reasons: It helps users learn the structure of the site and it prevents them from wasting time by going to the same page repeatedly.

**Where can I go?** Visible navigation options and any other links on the page allow users to determine their destination. Good site structure is a major benefit in helping users answer the "Where can I go?" question. Use one of three kinds of hypertext links on a page:

- Embedded links are the traditional underlined text that indicates there is "more stuff" available.
- Structural links that systematically point to other levels in the site structure, as well as to "child" pages in the hierarchy. It is important to have the same structural link format on all pages so users understand what structural navigation options to expect.
- Associative links that give users "see also" hints about pages that may be of interest to them.

Links are detailed in Module 6, Write Content for the Web.


Tips

**When thinking about Web navigation, remember the first rule of real estate: location, location, location.**

- Location: Where am I?
- Location: Where have I been?
- Location: Where can I go?


Online Exercise

### Exercise: Testing site navigation

Working with a partner, travel to a site where the navigation works for you and one where you are lost and confused. Be prepared to report back in class.

**What happens as you try to find your way through the information space?**

## Navigation is Action

Navigation is essential on the Web because it serves as the basis for action.

One way to understand the action a user will take, is to get a good sense of what Donald Norman calls the "seven stages of action." He refers to these steps as part of an "approximate model"—we might not encounter each of the steps (or some might run together), but they serve as a helpful guide as we figure out actions we may want to present online.

Each action can be broken down into the following seven components:

**Donald Norman's Seven Stages of Action**

1. **Forming the goal**
2. **Forming the intention**
3. **Specifying an action**
4. **Executing the action**
5. **Perceiving the state of the world**
6. **Interpreting the state of the world**
7. **Evaluating the outcome**

Imagine you are entering an elevator to come to class. Here is a descriptive scenario of what happens as you move through the action:

1. **Forming the goal:** I must find my way to the eighth floor
2. **Forming the intention:** I know an elevator will get me there
3. **Specifying an action:** I shall use my repertoire of "elevator actions" to move forward toward accomplishing this goal
4. **Executing the action:** I press a button, await an elevator, enter elevator area, and press a button inside that corresponds with the floor I hope to access
5. **Perceiving the state of the world:** I see buttons that match the mental model I had when entering the elevator (numbered buttons for each of the floors)
6. **Interpreting the state of the world:** Buttons light up when pushed, elevator doors close, elevator moves
7. **Evaluating the outcome:** Doors open and I see a corresponding number to let me know I ended on the floor I had intended

**Real life story**

Thom tells this story: "Once I arrived at an office building that had three elevators. Of the three elevators, one already had its doors wide open. This signaled to me and others in the building that the elevator was broken. Our mental model was to await a functioning elevator. As the lobby filled with people, a new visitor strode in, walked past the crowds, entered the "broken" elevator, pressed a button, and departed for a higher floor. Naturally, we were surprised and could only suspect the elevator grabber had thought we were assembling in the lobby for some idle chit chat and camaraderie. (Or else he was rude.)"

# 5.4 Apply four strategies for crafting navigation that works

## Apply four Rs of successful navigation

To help people, your site's navigation should be:

- **R**ecognizable
- **R**esponsive
- **R**hetorical
- **R**outed

### Recognizable

Good site structure enables us to learn our way around quickly. Remember, people won't hang out and wait to learn what's what on a page. We must build sites to support how people process information—they naturally build hierarchies.

Recognizable navigation takes into account how people view information. The site navigation **must be** consistent:

- You must repeat similar elements throughout the entire piece
- Users expect things to be in the same place throughout the site
- You cannot, for example, remove menu choices to save room

We must avoid the pitfall of icon building in which a user spends time learning what each icon stands for, rather than doing the job at hand.


Tips

**Follow these guidelines to make site navigation recognizable:**

- ✓ Incorporate the organization's name
- ✓ Use the same graphic identity
- ✓ Repeat elements
- ✓ Build navigation elements that are similar and identifiable
- ✓ Don't distract users with extraneous information
- ✓ Avoid narrow, deep hierarchical menus (broad, shallow menus help users more)

**Affordances provide strong clues to the operations of things.…When affordances are taken advantage of, the user knows what to do just by looking: no picture, label, or instruction is required.**

**Donald A. Norman, *The Psychology of Everyday Things,* 1988**

## Responsive

Designers care about whether the user *perceives* that some action is possible (or, if so perceived, not possible). Successful navigation is responsive. It uses:

- Good site structure responses that let users know that a navigation choice was successful
- JavaScript rollovers as much as possible
- Thank yous when users submit forms
- Warnings to users that a task will take longer than a few seconds. If not, they will think there's a problem
- Emergency exits
- The choice of OK and Cancel as users move through a site (don't make users go through a series of screens to Cancel)
- Wording of errors in plain language rather than codes
- Conceptual models
- Clues about how things work in their visible structure in particular from mappings (overall visual structure) and affordances
  - **Mappings** show relationships between actions and results.
  - **Affordances** let the user know what is possible.

Question

**What are examples of mappings and affordances?**

**Two of the purposes of navigation are fairly obvious: to help us find whatever it is we're looking for, and to tell us where we are.**

**Steve Krug, *Don't Make Me Think*, 2000**

### Rhetorical

Successful navigation supports user purpose and goals. It answers the rhetorical situation—context—in which the user moves toward action. Your site design depends on users' goals and what they expect to accomplish.

- Navigation must support the audience
- Labels must use a language familiar to the audience
- Navigation must support the purpose of the site
- Promotional campaigns have different approaches than games or a commercial site

### Routed

Good site structure shows different routes or pathways through information. We can think of the routes through information as:

- Global routes within the entire context of a site
- Local routes within the structure of a certain section of a site
- *Ad hoc* navigation links where the relationships between content items do not always fit neatly into categories. Use *ad hoc* links to enable readers to bounce from place to place

As users we will see different routes and take the one that best fits our needs/system resources. For example:

- Users will not only take standard routes. They use sitemaps, non-graphic versions of websites, and search engines to find information
- They may want alternatives—printing a PDF file, for example

**Online Exercise**

### Exercise: Navigating the four Rs

Assess a site (it could be one for your firm or one with which you are familiar).

**How would you explain its navigation using the four Rs?**

# 5.5 Identify types of navigational elements

**A complex web site often includes several types of navigation systems. To design a successful site, it is essential to understand the types of systems and how they work together to provide flexibility and context.**

**Louis Rosenfeld and Peter Morville, *Information Architecture for the World Wide Web,* 1998**

| Element | Tips and Problems |
|---|---|
| **Navigation bars** | **Tip:** Add <alt=> attribute to graphic so people will see the name as it loads<br>**Tip:** Place on top (as best option) |
| **Frames** | **Problem:** Can confuse page model in users' heads<br>**Problem:** If not done well, people can't bookmark pages |
| **Pull-down menus** | **Tip:** Check out http://www.useit.com<br>**Tip:** Use to save screen space<br>**Problem:** Users aren't sure what's there<br>**Problem:** Users can get overloaded |
| ***Ad hoc* links:**<br>Embedded links<br>Chunked links | **Tip:** Don't use embedded links for critical information<br>**Tip:** Use bullets and separate chunks of information to draw users' attentions to important links |
| **Breadcrumb links** | **Tip:** Efficient use of space<br>**Problem:** Limits choices (can only move up and down the hierarchy) |

Individual Exercise

## Exercise: Assessing site navigation

Imagine you are the user of YOUR site. Try to complete some specific tasks and answer the questions that follow.

**1. When you go from one screen to another, is the navigation consistent? Or do you have to pause and ask yourself, "Where was I?" "What was on the last screen?"**

**2. What navigational elements exist on the site?**

**3. When you try to travel through the site, are there icons or navigational features that don't make sense to you?**

**4. When you travel through the site, are you ever surprised that traditional navigational elements aren't available? (As an example, people often expect to click on the icon in the upper left-hand corner to go back to Home).**

**5. When you travel through the site, do you see some kind of response from the system, such as a rollover (text that changes visually when you land on it)? Do you ever find that you end up on a page that has hard-to-understand computer jargon such as "404 error"?**

**6. When you travel through the site, do you see different routes for the same information? Can you imagine additional routes that you could take: for example, routes for expert users or different sorting structures of information, such as lists arranged by alphabet AND by date?**

**7. When you look at the site, do you think the navigation supports your overall purpose? Do you feel that it meets the needs of your audience?**